

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 December 2001 (06.12.2001)

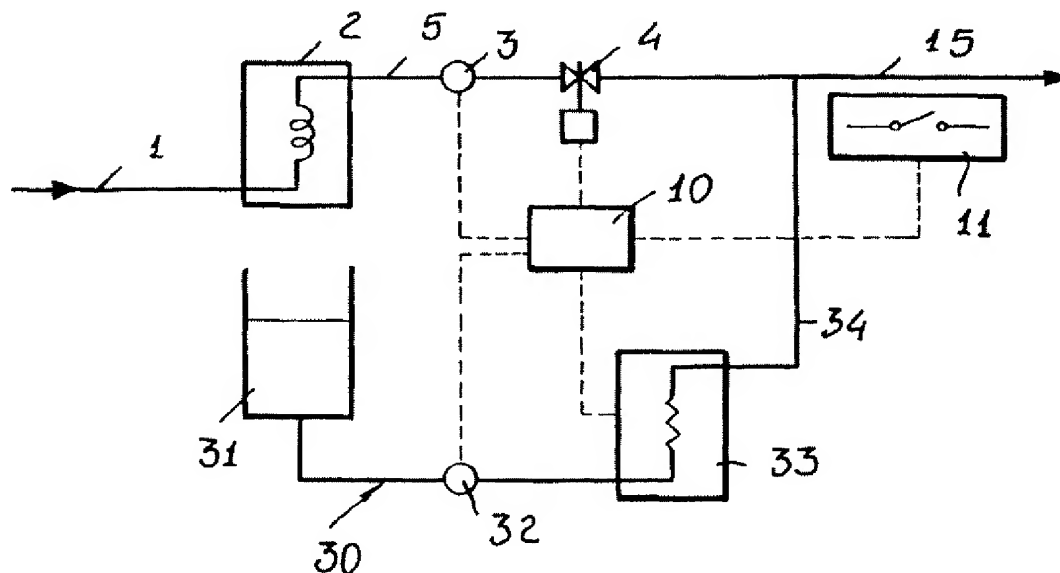
PCT

(10) International Publication Number
WO 01/92143 A1

- (51) International Patent Classification⁷: **B67D 1/07** (74) Agent: **CICO GNA, Franco**; Ufficio Internazionale Brevetti, Dott. Prof. Franco Cicogna, Via Visconti di Modrone, 14/A, I-20122 Milano (IT).
- (21) International Application Number: **PCT/IT01/00272**
- (22) International Filing Date: **28 May 2001 (28.05.2001)** (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (25) Filing Language: **Italian**
- (26) Publication Language: **English**
- (30) Priority Data: **MI2000A001189** 29 May 2000 (29.05.2000) **IT** (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **IDEA-MATIC S.R.L.** [IT/IT]; Via Emilia Interna, 12, I-48014 Castalbolognese (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **SERGIO, Massimo** [IT/IT]; Via Mirandola, 13, I-47900 Rimini (IT). **DE LU-CIA, Fiorenzo** [IT/IT]; Via Prov. S. Marino, 1136, I-47826 Verucchio (IT).
- Published:
- with international search report
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: **REFRIGERATED BEVERAGE DISPENSER PROVIDED WITH A SANITIZING DEVICE**



(57) Abstract: The present invention relates to a refrigerated beverage dispenser, specifically designed for delivering fruit juices, tea, mineral water, wine and the like, which comprises an inlet (1) for water or drink to be delivered, downstream of which is arranged a refrigerating device (2). On the delivering duct a pump (3) and a solenoid valve (4), controlled by a central processing unit (10), are applied. Moreover, a sanitizing auxiliary device (30), controlled by said central processing unit (10) is also provided.

Description

REFRIGERATED BEVERAGE DISPENSER PROVIDED WITH A SANITIZING DEVICE

BACKGROUND OF THE INVENTION

5

The present invention relates to a refrigerated beverage dispenser for delivering fruit juices, tea, mineral water, wine and the like.

Prior beverage automatic dispensing devices are already known which, however, are very complex construction wise and are not suitable to provide a homogeneous delivering of beverages, which can be either prepared before or at the time of the delivering operation, by using a concentrated product.

15

Furthermore, prior beverage delivering device do not provide optimum hygienic characteristics, mainly at the delivering outlets or spouts, which are exposed to people.

20

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks, by providing a refrigerated beverage dispenser, specifically designed for delivering fruit juices, tea, mineral water, wine and the like, which is very practical from an operation standpoint and which is suitable to deliver either already prepared beverages, or beverages which are prepared at the delivering time, by using a concentrated product.

30

Within the scope of the above mentioned aim, a main object of the invention is to provide such a

a preferred, though not exclusive, embodiment of a refrigerated beverage dispenser, specifically designed for delivering fruit juices, tea, mineral water, wine and the like, which is illustrated, by way of an indicative, but not limitative example, of the figures of the accompanying drawings, where:

Figure 1 illustrates an operating diagram of the refrigerating beverage dispenser according to the present invention; and

Figure 2 illustrates an operating diagram of a refrigerated beverage dispenser suitable to mix the products.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the number references of the above mentioned figures, and, more specifically to figure 1, the refrigerated beverage dispenser, specifically designed for delivering fruit juices, tea, mineral water, wines, and the like, comprises an inlet 1 to be connected either to the water system for introducing into the device drink water directly coming from said water system, by using the inlet or supplying pressure, or to a natural mineral water vessel, as packaged in PET flasks or bottles, or in the so-called bag-in-box packages of 20 liters, to be pumped under pressure to the inlet 1.

To the latter it is possible to connect further vessels holding ready for use products, to be taken by suction.

Downstream of the water or beverage inlet is provided a refrigerating device 2, which is advantageously constituted by a conventional

The dipping system comprises a food compatible polyethylene tube, having a quick coupled valve for coupling to further vessels, or so-called bag-in-box packages, used both for concentrated products and for
5 wine or other products.

The carbonated water and carbonated wine dispensers, differently from other embodiments of conventional dispensers, use an accumulation tank, the so-called saturating tank, coupled to a low-
10 pressure CO₂ bottle, said dispensers being also controlled by the mentioned central processing unit.

More specifically, said central processing unit operates to hold at a desired value the water, wine and gas levels inside the saturating device, and
15 automatically drives a pump for delivering refrigerated water or wine to the saturating device, thereby allowing said refrigerated water or wine to be properly carbonated.

The wine dispensers, on the other hand, directly
20 suck the wine, cool the sucked wine in stainless steel coils, and hold said wine in a refrigerated condition.

The delivery control unit will actuate the pumps and solenoid valves for opening suitably arranged
25 cocks.

In order to assure very high hygienic conditions for all the constructional elements, an auxiliary hygienizing or sanitizing device, generally indicated by the reference number 30, has been moreover
30 provided.

Said sanitizing device comprises a distilled water tank 31, in which is arranged a micropump 32,

CLAIMS

1. A refrigerated beverage dispenser for delivering fruit juices, tea, mineral water, wine and the like, characterized in that said dispenser
5 comprises an inlet for water or a beverage to be supplied, downstream of which is arranged a refrigerating device, and that, on the delivery duct, is applied a pump and a solenoid valve controlled by a central processing unit, an auxiliary sanitizing
10 device, controlled by said central processing unit being moreover provided.

2. A dispenser according to the preceding claim, characterized in that said water inlet is coupled to a water system.

15 3. A dispenser according to the preceding claims, characterized in that said water inlet is coupled to a packaged mineral water vessel.

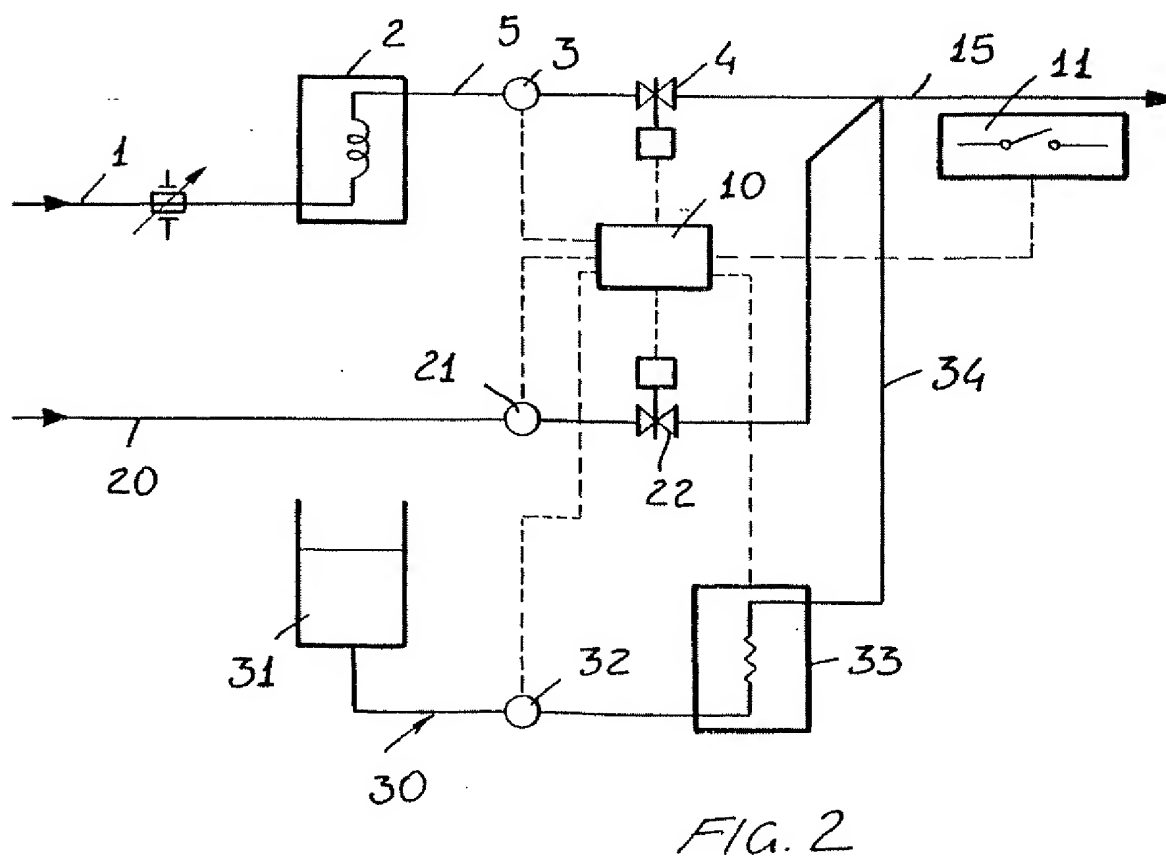
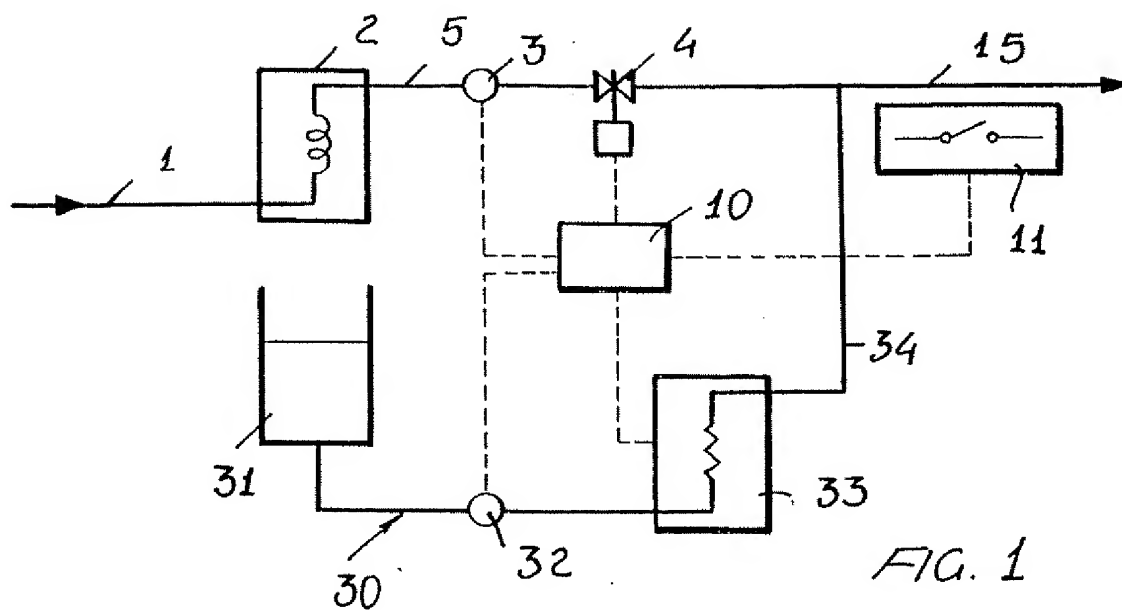
4. A dispenser according to one or more of the preceding claims, characterized in that said beverage
20 inlet is coupled to a vessel therefrom said beverage is taken by suction.

5. A dispenser according to one or more of the preceding claims, characterized in that said refrigerating device comprises a stainless steel
25 coil.

6. A dispenser according to one or more of the preceding claims, characterized in that said refrigerating device is coupled to an evaporator, a condenser, and a cooling fan.

30 7. A dispenser according to one or more of the preceding claims, characterized in that said refrigerating device is coupled to a refrigerating

1/1



INTERNATIONAL SEARCH REPORT

International Application No

/IT 01/00272

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 99 66273 A (HEYES KEITH JAMES ;HOLLAND JOSEPH EUGENE (GB); MOONEY WILLIAM ROBE) 23 December 1999 (1999-12-23) abstract; figures 1,2 ----	7
Y	US 1 509 345 A (DUNKLEY SAMUEL J) 23 September 1924 (1924-09-23) page 1, line 83 - line 95; figures 1-3 ----	9
Y	CH 653 976 A (COCA COLA CO) 31 January 1986 (1986-01-31) page 2, right-hand column, line 57 -page 3, right-hand column, line 6; figure ----	10,11
X	US 5 433 349 A (ROMANYSZYN JR MICHAEL T) 18 July 1995 (1995-07-18) column 1, line 66 -column 2, line 25 column 3, line 6 - line 14; figures 1,2,5,6 ----	1,2,4,6, 8
A	EP 0 245 641 A (SIPP SPA) 19 November 1987 (1987-11-19) column 3, line 27 - line 55; figures 1,2 ----	10,11
A	US 5 967 367 A (ORSBORN BRIAN JOSEPH) 19 October 1999 (1999-10-19) -----	

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

Continuation of Box I.2

Claims Nos.: 12

Rule 6.2(a).PCT Regulations.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.